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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,951	12/01/2003	Wen-Yen Chan	555255012652	3569

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EXAMINER	
FILE, ERIN M	

ART UNIT	PAPER NUMBER
2611	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/724,951	CHAN ET AL.	
	Examiner	Art Unit	
	Erin M. File	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *01 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/26/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37 CFR 1.83(b) reads as follows:

> When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. The drawings do not illustrate a method as described in claims 25-35.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 5-10, 17, 18, 20, 21, 25-28, 31, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. (U.S. Pub. No. 2002/0080887) in view of Hiltunen (U.S. Pub. No. 2003/0086398) and Rosnell (U.S. Pub. No. 2004/0251962).

Claims 1, 17, 25, 36, Jeong discloses:

- an encoder and modulator that generates an encoded and modulated transmit signal from an input signal ([0048], lines 10-11, 13-14, fig. 1, encoder 50 and modulator 70);
- a digital to analog converter, coupled to the encoder and modulator, for generating an analog representation signal of the encoded and modulated transmit signal ([0048], lines 20-21, fig. 1, A/D converter 120);
- and a power amplifier coupled to the analog representation signal ([0048], lines 24-25, fig. 1, 140).

Jeong fails to disclose a power amplifier control signal and at least one parameter within a power amplifier being adjusted in response to the power amplifier control signal, however, Hiltunen discloses a power amplifier control signal and at least one parameter within a power amplifier being adjusted in response to the power amplifier control signal

(abstract, lines 14-17). Because Hiltunen discloses this method reduces signal interference (abstract, lines 2-4), it would have been obvious to one skilled in the art at the time of invention to incorporate the HPA control as disclosed by Hiltunen into the invention of Jeong. Neither Jeong nor Hiltunen discloses an effectively continuously valued mapping function that selects an output value for a power amplifier control signal in response to a desired transmit power signal, the effectively continuously valued mapping function comprising a table having a plurality of output values for the power amplifier control signals each with a corresponding desired transmit power value, however, Rosnell discloses an effectively continuously valued mapping function that selects an output value for a power amplifier control signal in response to a desired transmit power signal, the effectively continuously valued mapping function comprising a table having a plurality of output values for the power amplifier control signals each with a corresponding desired transmit power value ([0045]-[0046]). Because Rosnell discloses his amplifier power control responds in a manner maximizing linearity and efficiency ([0050], lines 6-10), it would have been obvious to one skilled in the art at the time of invention to incorporate the mapping and power control as disclosed by Rosnell into the combined invention of Jeong and Hiltunen.

Claim 2, 18, Rosnell discloses the desired transmit power signal is an average transmit power signal ([0006], lines 1-3).

Claim 5, Rosnell discloses the power amplifier control signal is an analog signal ([0045] and fig. 1 show the control signal of fig. 1 is analog, converted by DAC 10).

Claim 6, Rosnell further discloses the power amplifier control signal is a digital signal

([0045] and fig. 1 show before conversion, the control signal as disclosed by Rosnell is digital before entering DAC 10).

Claim 7, 38, Rosnell discloses the mapping function selects the output values within the function such that each corresponding transmit power value results in an optimized transmitter power efficiency value ([0050], lines 8-10).

Claims 8, 21, Hiltunen discloses a parameter of the power amplifier is a load ([0093], lines 6-7)

Claim 9, Hiltunen discloses the at least one parameter is any transmitter apparatus parameter that affects transmitter efficiency (abstract, lines 14-17).

Claim 10, the desired transmit power signal is converted to an analog signal prior to being input to the mapping function.

Claim 20, 26, 31, Jeong discloses a power amplifier (Jeong, fig. 1, HPA).

Claim 27, Hiltunen discloses a control signal that is a power amplifier control signal (abstract, lines 14-17).

Claim 28, Rosnell discloses generating an automatic gain control amplifier control signal in response to the desired transmit power level value ([0045]-[0046]).

Claim 37, Hiltunen discloses a receiver that receives communication signals from a base station ([0042]).

5. Claims 3 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. (U.S. Pub. No. 2002/0080887) in view of Hiltunen (U.S. Pub. No.

2003/0086398) and Rosnell (U.S. Pub. No. 2004/0251962) as applied to claims 1 and 17 above, and further in view of Kurita (U.S. Pub. No. 2003/0060193).

Claim 3, 19, neither Jeong, nor Hiltunen, nor Rosnell disclose the desired transmit power signal is a peak transmit power signal, however, Kurita discloses the desired transmit power signal is a peak transmit power signal ([0038]). Because the use of the peak transmit power allows for the most efficient transmission of data, it would have been obvious to one skilled in the art at the time of invention to incorporate the peak power control as disclosed by Kurita into the combined invention of Jeong, Hiltunen, and Rosnell.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-35, 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7, 11, 16, 25, 30, in the recitation "optimized power efficiency while still meeting out of band spurious emissions and waveform quality requirements" it is not clear how this optimization is performed or the nature of these requirements.

Claim 38, in the recitation "best possible transmitter power efficiency while still meeting out of band spurious emissions and waveform quality requirements" it is not clear how this optimization is performed or the nature of these requirements.

8. Claim 1 recites a limitation of a table having a plurality of output values...each with a corresponding desired transmit power value. However, Claim 2 adds the limitation of the desired transmit power signal is an average transmit power signal. These limitations, taken together are unclear in what average power is being determined. If the desired power is the average transmit power, and there is a value for each desired power in the mapping table, how is the desired power able to be the average transmit power? The combination of claims 1 and 2 are therefore unclear and rendered indefinite.

9. Claims 8, 21, recite a Markush limitation which requires one parameter from a list of parameters. The following parameters in this list of parameters are unclear and are rendered indefinite: a stage switch-in feature, a stage switch-out feature, a turning on feature, a turning off feature, and an amplifier class change feature. These features must be more clearly defined within the claim.

Allowable Subject Matter

10. Claims 11-16, 30-35 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

11. Claims 4, 22-24, 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. The examiner can normally be reached on M-F 1:00PM-9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin M. File

EF

1/30/2006

David C. Payne

DAVID C. PAYNE
PRIMARY PATENT EXAMINER